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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/501,570	02/10/2000	Anders Wikman	2380-164	4074

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Arlington, VA 22201-4714

EXAMINER

NGUYEN, SIMON

ART UNIT	PAPER NUMBER
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2685

DATE MAILED: 09/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/501,570

Applicant(s)

WIKMAN, ANDERS

Examiner

SIMON D NGUYEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8,11-13,18 and 20-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8,11-13,18 and 20-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6, 8, 11-13, 16, 18, 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Petch et al. (6,243,372) in view of Reese et al. (6,226,274).

Regarding claim 1 and 5, Petch discloses a mobile communication system including a base station (12 of fig.1) communicating with a mobile station (14 of fig.1) over a radio interface (column 5 line 66), comprising: determining a first reference timing adjustment for the base station (column 8 lines 34-37) and a second reference timing adjustment for the mobile station (column 10 lines 43-46); effecting a change in a reference timing of the base station during time slots received from a BSC and mobile station using a first reference timing adjustment (column 3 lines 1-23, column 8 lines 10-67); and effecting a change in a reference timing of the mobile station during time slots received from the base station using the second reference timing adjustment (column 3 lines 35-45, column 10 lines 23-67). However, Petch does not specifically disclose that the base station adjusts during odd-numbered time intervals while the mobile station adjusts during even-numbered time intervals.

Reese discloses a synchronization method between a mobile station and a base station wherein the mobile station timer is adjusted odd timing intervals and the base station timer is adjusted even timing intervals or vice versa (fig.5A-B, 7, column 15 lines 6-25). Therefore it would have been obvious to one skilled in the art at the time the invention was made to have Petch modified by Reese in order to allow different users transmit simultaneously over the same frequency without interference with one another.

Regarding claims 2-3, Petch further discloses the steps of determining a difference between the base station and a radio network controller (16 of fig.2) timing, comparing the difference with a threshold and if the difference exceeds the threshold, determining the first reference timing adjustment (fig.2, column 7, column 8 line 1-45, column 9 line 7-38, column 14 lines 60-63).

Regarding claims 4 and 6, Petch further discloses the timing adjustment between a base station and a mobile station in which frame numbers of the base station and mobile frame number values are continuously incremented (column 8 lines 34-45, column 12 lines 40-59).

Regarding claims 8 and 11, Petch discloses a mobile communication system including a network control node (16 of fig.1) coupled to a base station (12 of fig.1), the base station communicating with a mobile station (14 of fig.1) over a radio interface (column 5 line 66), comprising: a base station frame number counter for generating a reference timing used by the base station to determine a time when a block of information starts or ends; and data processing circuitry configured to receive a timing adjustment from the radio network controller and to adjust the base station frame

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number counter (column 3 lines 1-23, column 8 lines 29-67). However, Petch does not specifically disclose the base station frame number adjusts during odd-numbered frames while the mobile station frame timing counter adjusts during even-numbered frames.

Reese discloses a synchronization method between a mobile station and a base station wherein the mobile station timer is adjusted odd timing intervals and the base station timer is adjusted even timing intervals or vice versa (fig.5A-B, 7, column 15 lines 6-25). Therefore it would have been obvious to one skilled in the art at the time the invention was made to have Petch modified by Reese in order to allow different users transmit simultaneously over the same frequency without interference with one another.

Regarding claim 12, Petch further discloses that the BS master clock circuit (40 fig.2) is an internal timing source (column 7 line 61 to column 8 line 19).

Regarding claims 13 and 16, Petch discloses a mobile communication system including a network control node (16 of fig.1) coupled to a base station (12 of fig.1), the base station communicating with a mobile station (14 of fig.1) over a radio interface (column 5 line 66), comprising: a mobile station frame number counter for generating a reference timing used by the base station to determine a time when a block of information starts or ends; and data processing circuitry configured to detect a timing signal from the base station and to adjust the frame number counter (column 10 lines 23-67). However, Petch does not specifically disclose the mobile station frame number adjusts during odd-numbered frames while the base station frame timing counter adjusts during even-numbered frames.

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Reese discloses a synchronization method between a mobile station and a base station wherein the mobile station timer is adjusted odd timing intervals and the base station timer is adjusted even timing intervals or vice versa (fig.5A-B, 7, column 15 lines 6-25). Therefore it would have been obvious to one skilled in the art at the time the invention was made to have Petch modified by Reese in order to allow different users transmit simultaneously over the same frequency without interference with one another.

Regarding claims 18 and 20, Petch discloses a mobile communication system including a network control node (16 of fig.1) coupled to a base station (12 of fig.1), the base station communicating with a mobile station (14 of fig.1) over a radio interface (column 5 line 66), the method for synchronizing timers in each of the mobile and base stations wherein the mobile station timer is adjusted time slots received from the base station and the base station is adjusted time slots received from the mobile station (column 2 line 49 to column 3 line 45). However, Petch does not specifically disclose the mobile station timer is adjusted odd timing intervals and the base station timer is adjusted even timing intervals.

Reese discloses a synchronization method between a mobile station and a base station wherein the mobile station timer is adjusted odd timing intervals and the base station timer is adjusted even timing intervals or vice versa (fig.5A-B, 7, column 15 lines 6-25). Therefore it would have been obvious to one skilled in the art at the time the invention was made to have Petch modified by Reese in order to allow different users transmit simultaneously over the same frequency without interference with one another.

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Regarding claims 21-23, Petch discloses the block of information is a frame (column 3 lines 40-45).

3. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Petch et al. (6,243,372) in view Reese et al. (6,226,274) as applied to claim 1, and further in view of Hall et al. (6,208,871).

Regarding claim 7, the modified Petch system discloses a handoff method for a mobile station between the base stations via the controller (column 2 lines 1-9). However, the modified Petch system does not specifically disclose the step of timing adjustment for the handoff in a second base station.

Hall discloses a handoff of the mobile station between a first and second base stations (fig.2), comprising: determining a timing adjustment for the first and second base stations (column 3 lines 28-40); effecting a change in timing of the first and second base stations (column 5 line 25 to column 6 line 59); effecting a change in timing of the mobile station during a time interval different from the timing of the first or the second base station timing is changed (column 5 lines 58-66, column 9 lines 45-53). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have the modified Petch system, modified by Hall to synchronize a mobile station with two base stations prior to handoff the mobile station to a second base station in order to prevent the disruption of traffic information.

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Response to Arguments

4. Applicant's arguments with respect to claims 1-8, 11-13, 18, 20-23 have been considered but are moot in view of the new ground(s) of rejection.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Simon Nguyen whose telephone number is (703) 308-1116. The examiner can normally be reached on Monday-Friday from 7:00 AM to 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban, can be reached on (703) 305-4385.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 306-0377.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9314, (for formal communications intended for entry)

Hand-delivered response should be brought to Crystal Park II,
2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Simon Nguyen

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September 11, 2003

Simon Nguyen